

FIG. 2

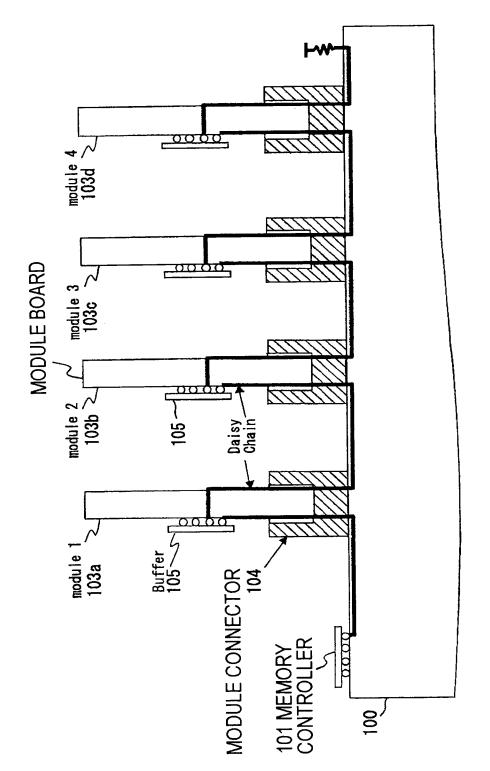
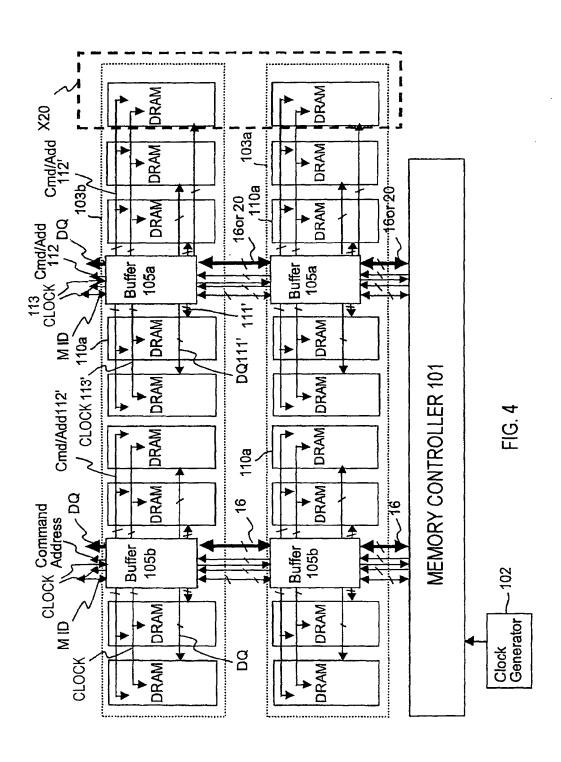


FIG. 3



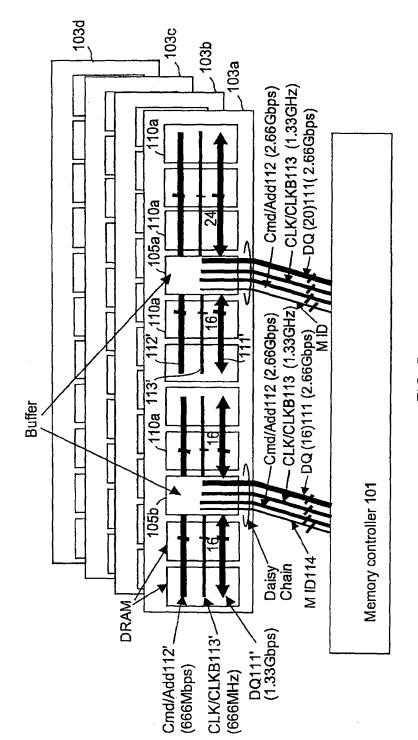


FIG. 5

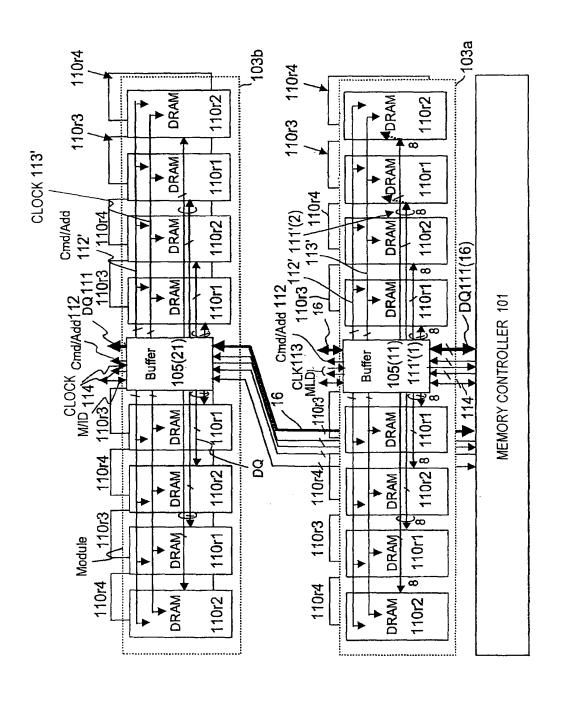


FIG. 6

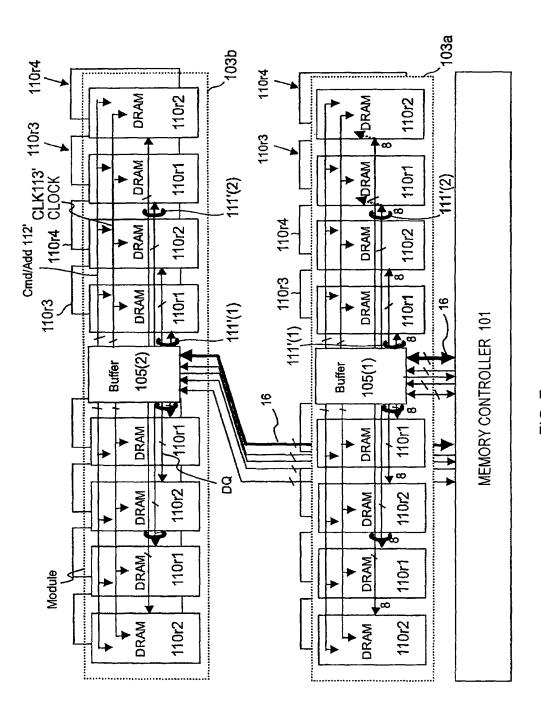


FIG. 7

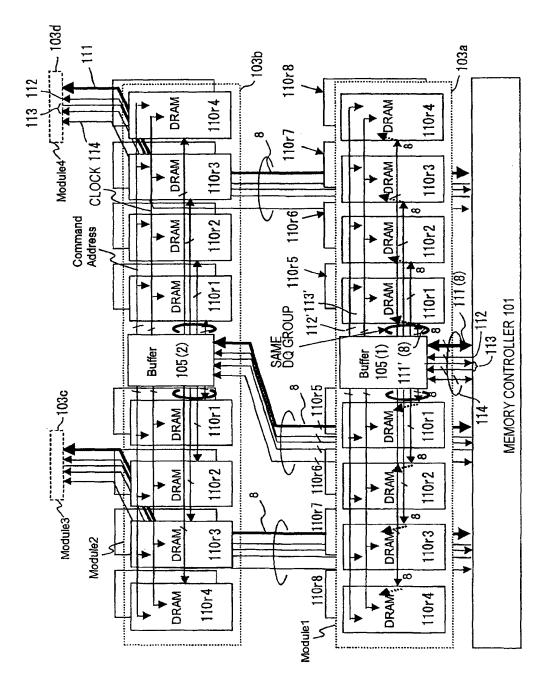


FIG. 8

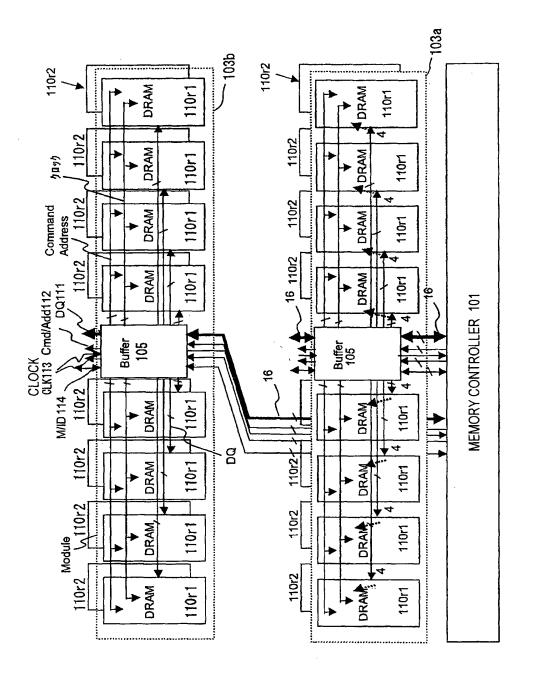


FIG. 9

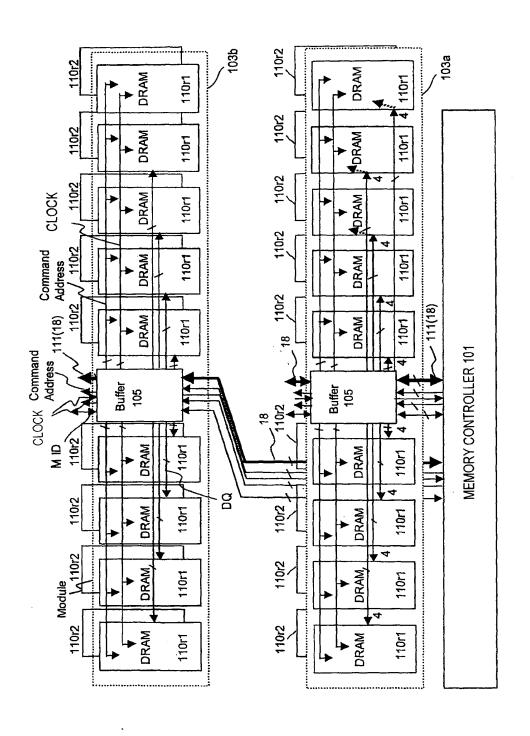


FIG. 10

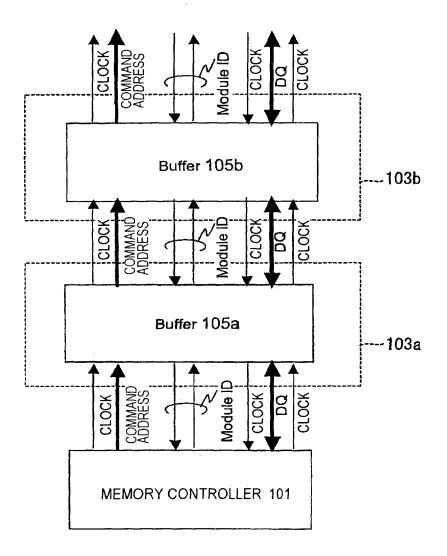


FIG. 11

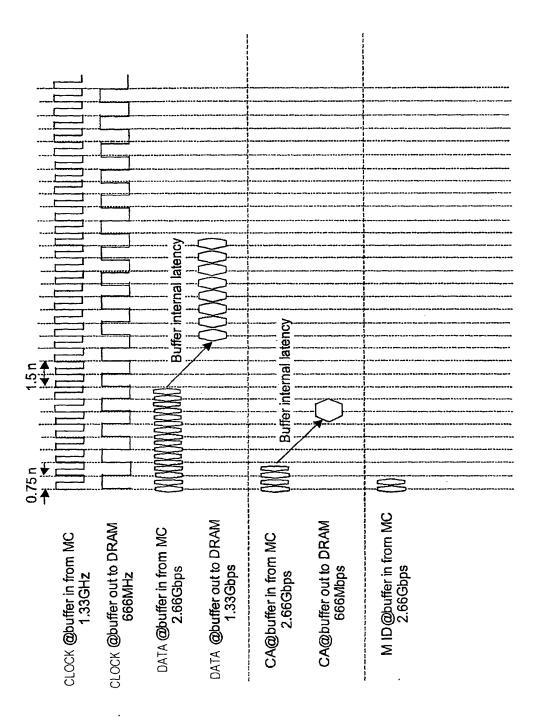


FIG. 1

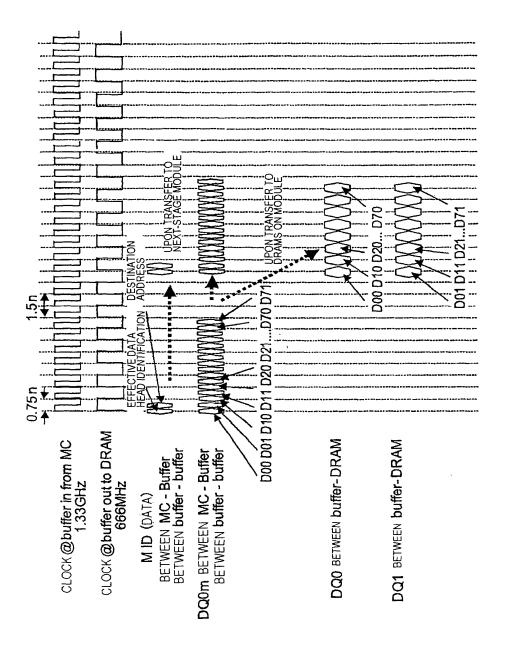


FIG. 13

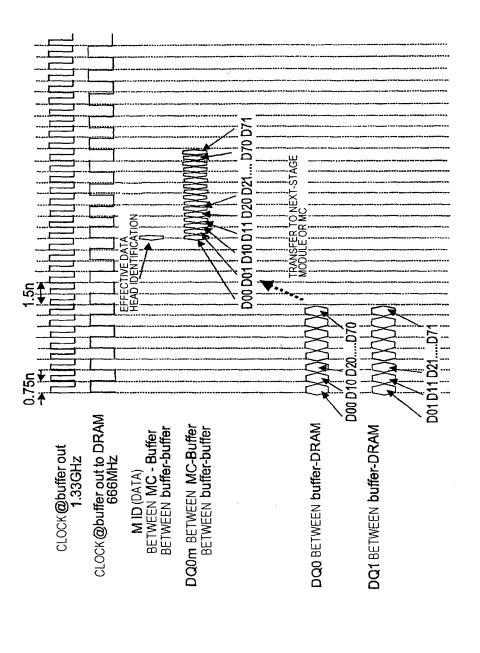


FIG. 12

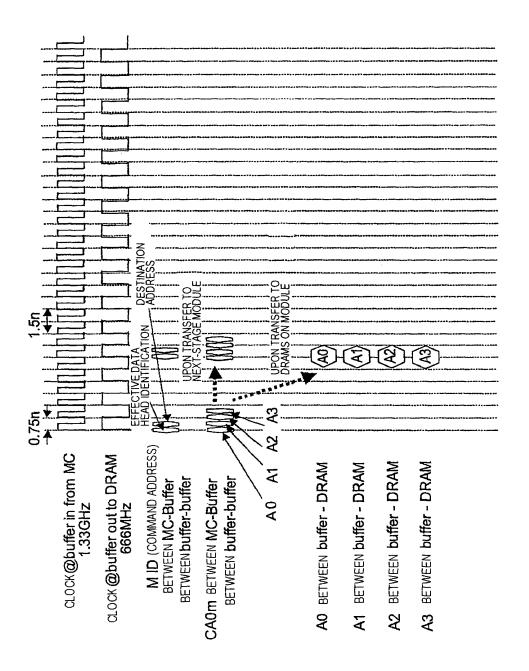


FIG. 15

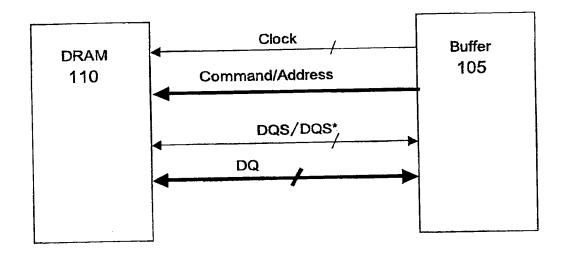
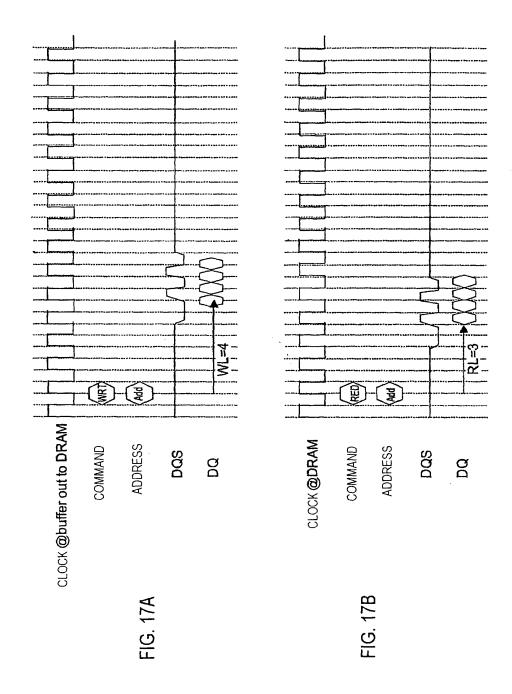


FIG. 16



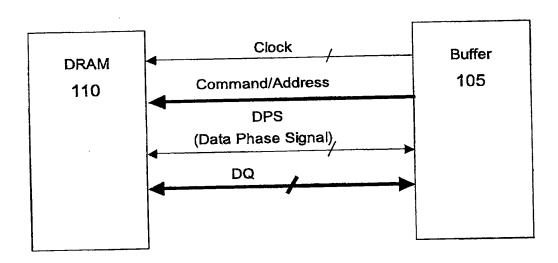


FIG. 18

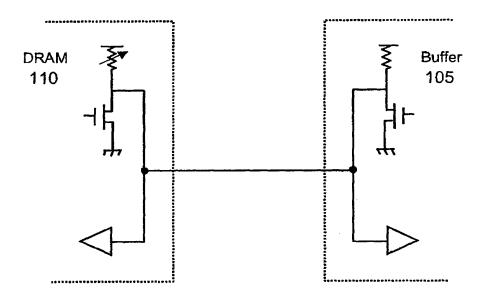


FIG. 19

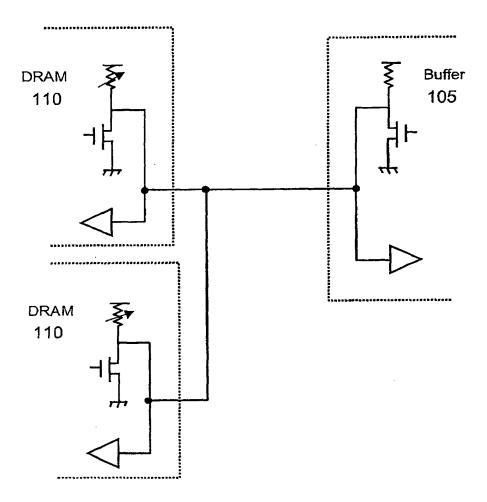
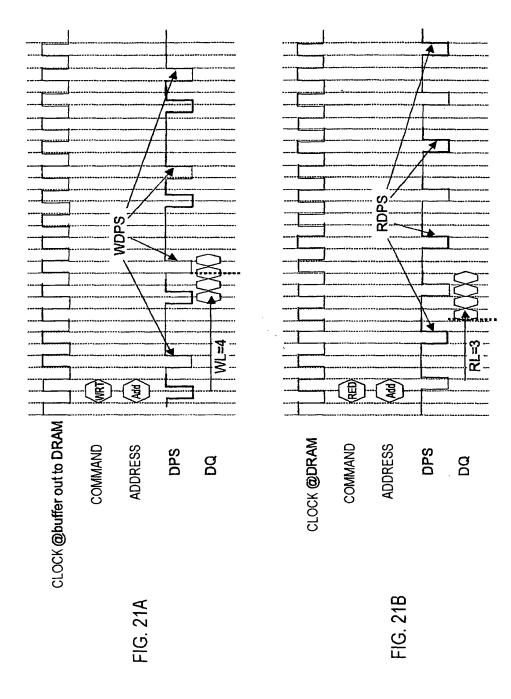


FIG. 20



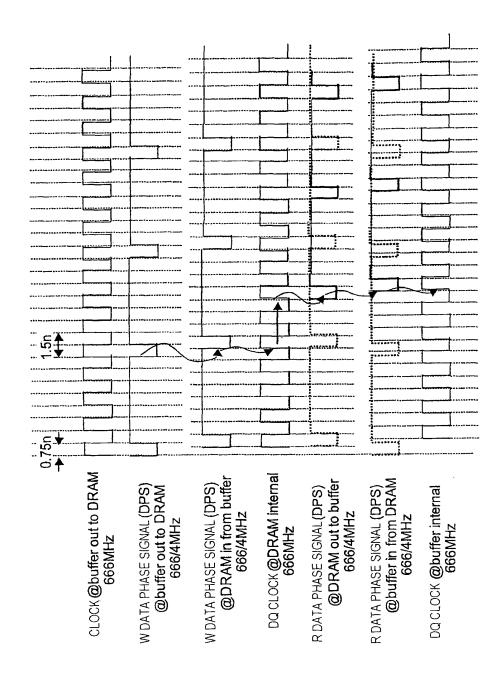


FIG. 22

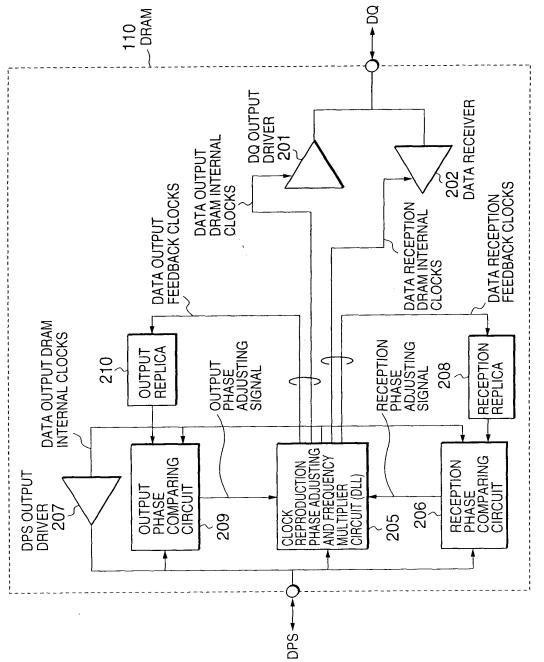


FIG.23

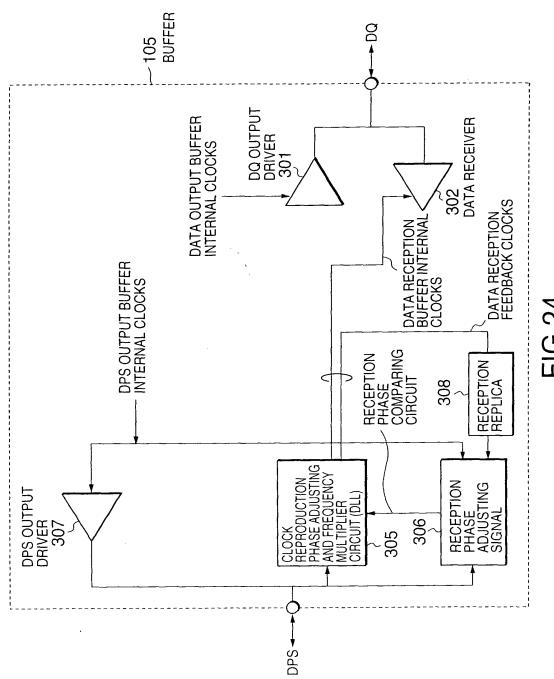


FIG.24

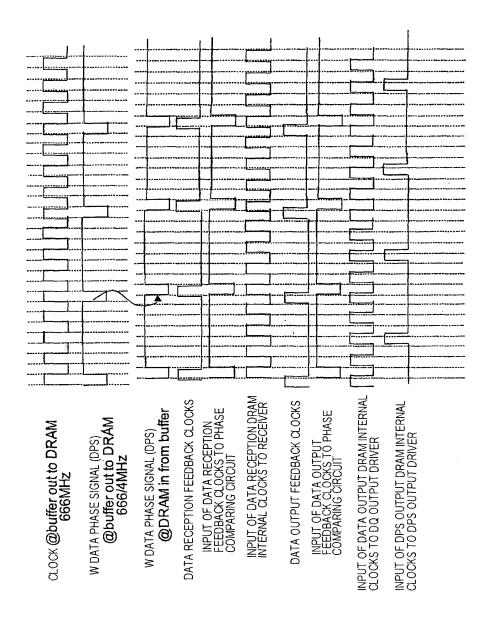


FIG. 29

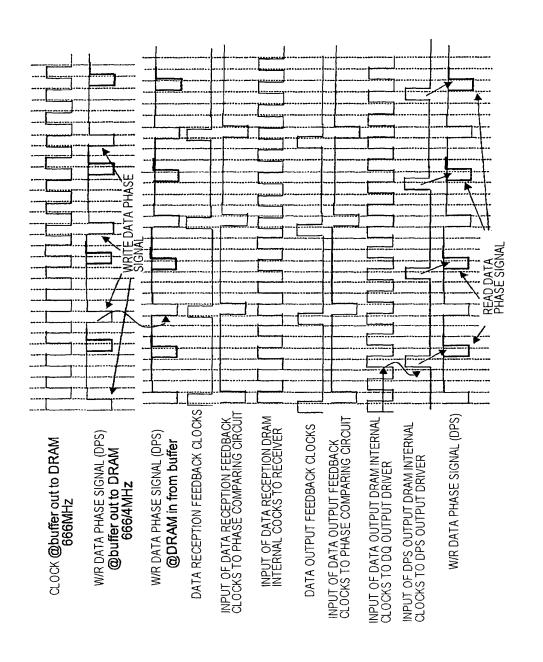


FIG. 26

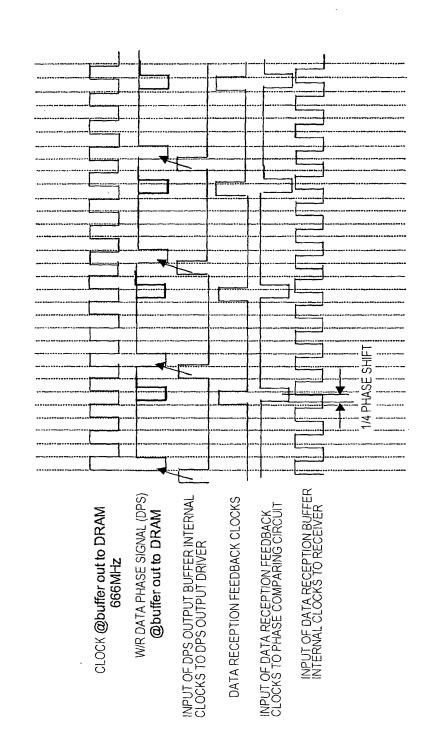


FIG. 27

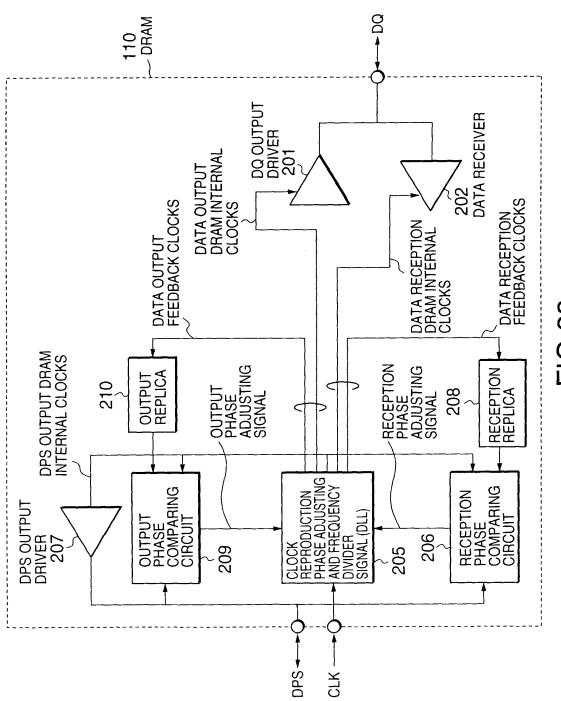
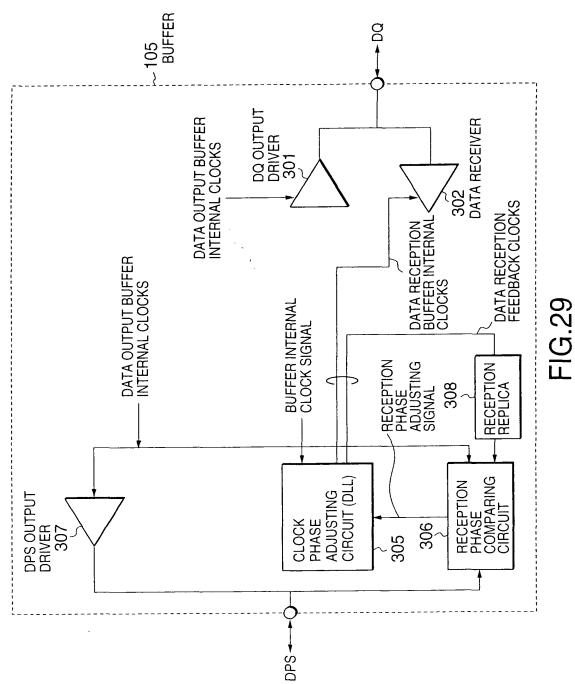


FIG.28



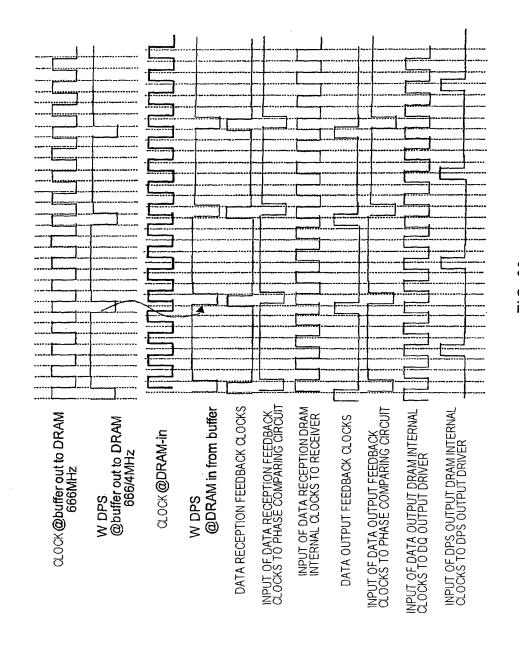


FIG. 30

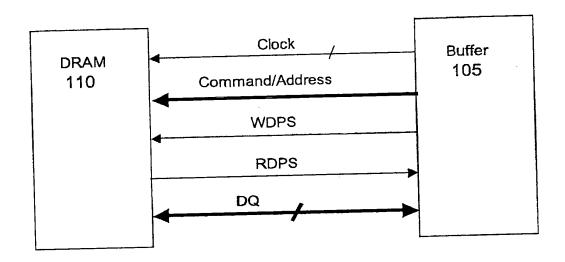


FIG. 31

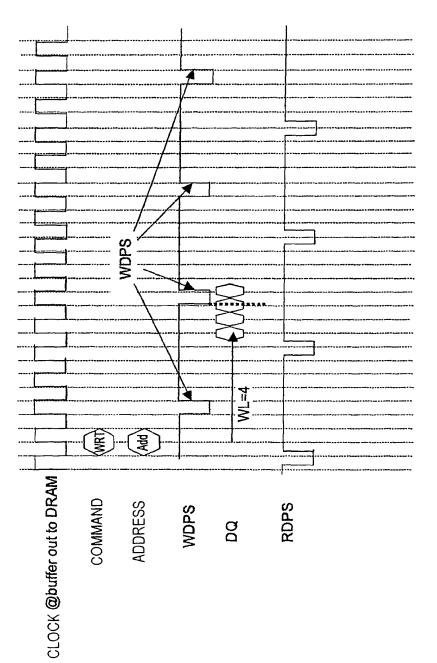


FIG. 32

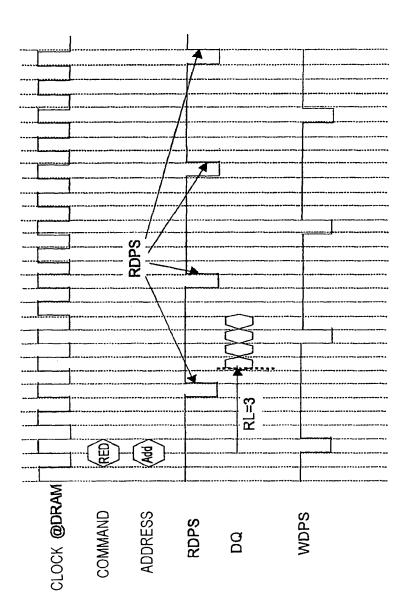


FIG. 33

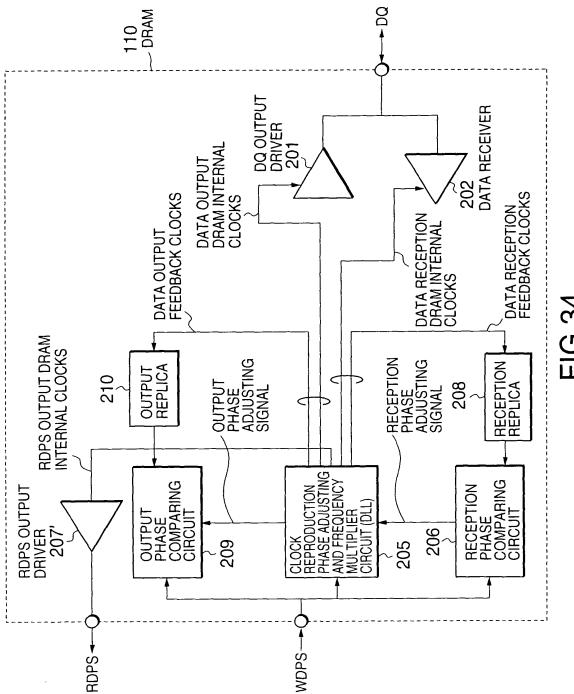


FIG.34

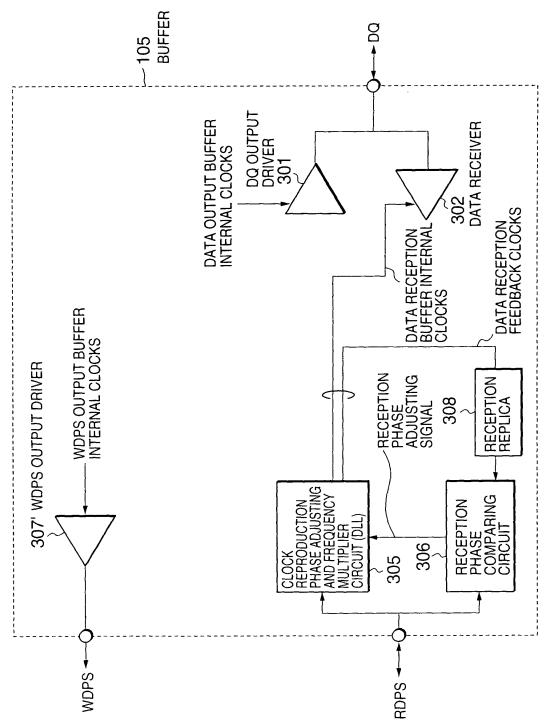


FIG.35

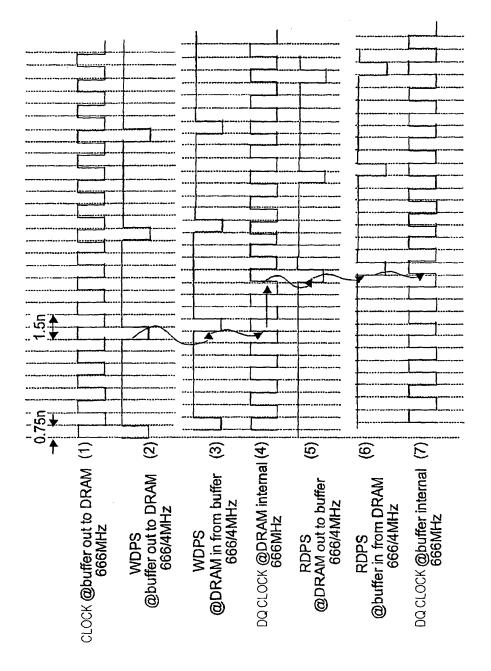


FIG. 36

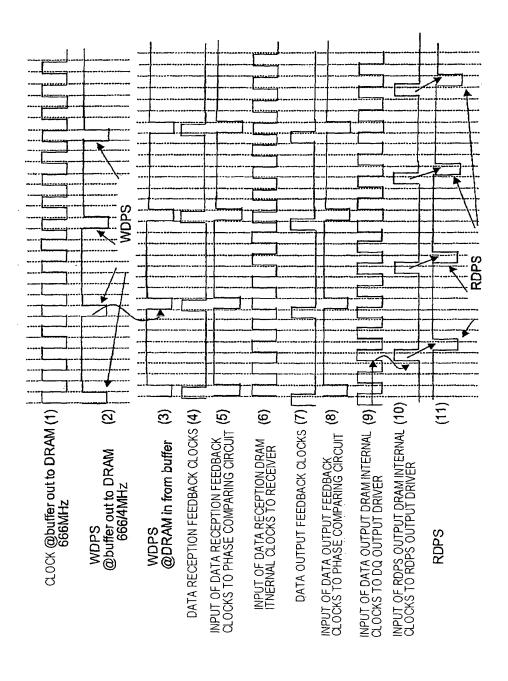


FIG. 37

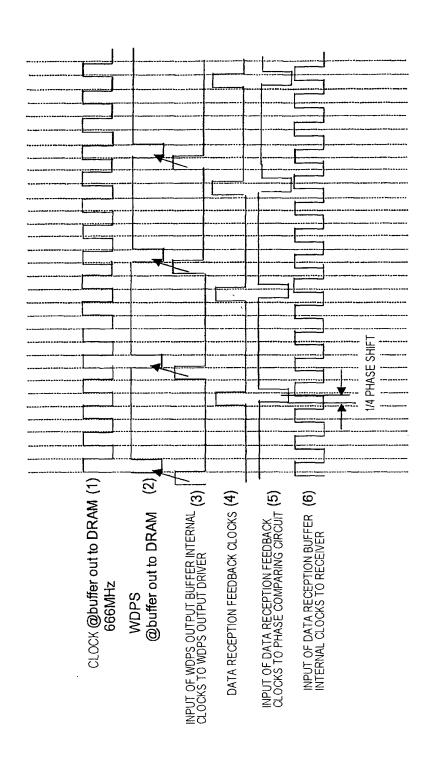


FIG. 38

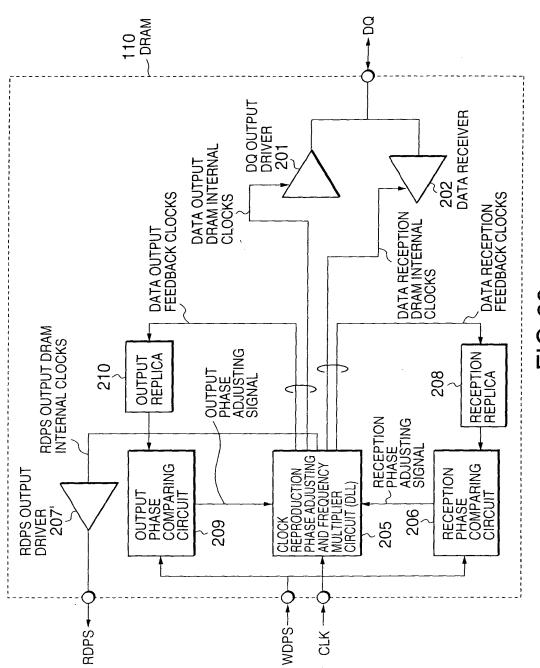


FIG.39

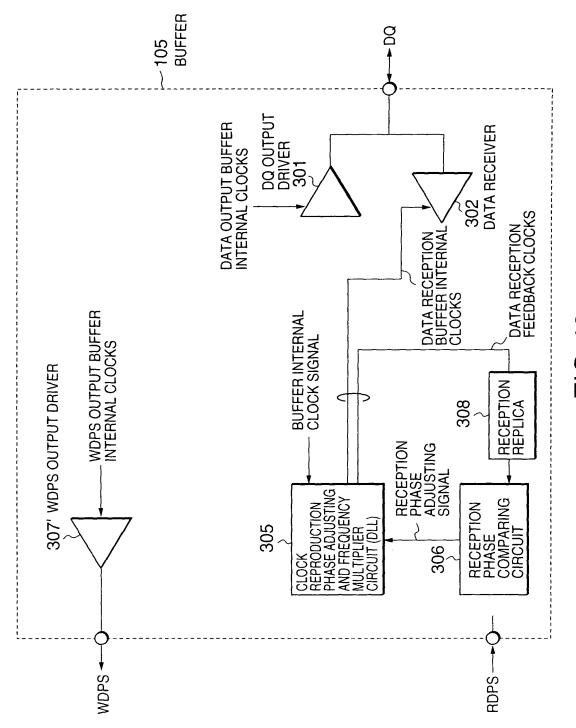


FIG.40

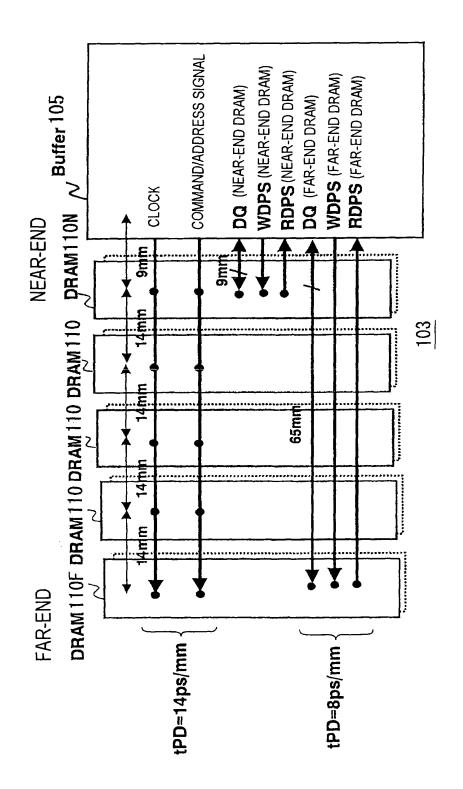


FIG. 41

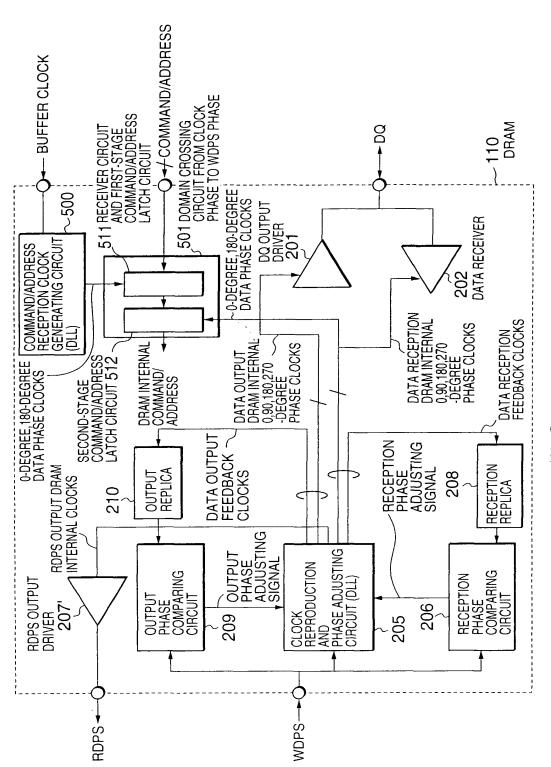


FIG.42

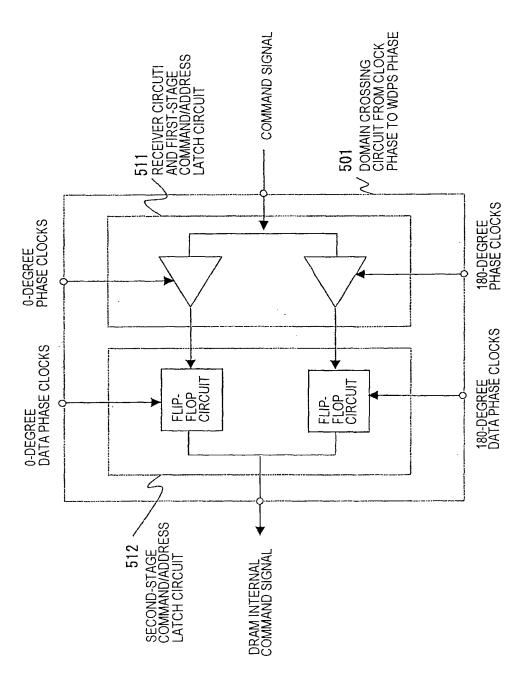


FIG. 43

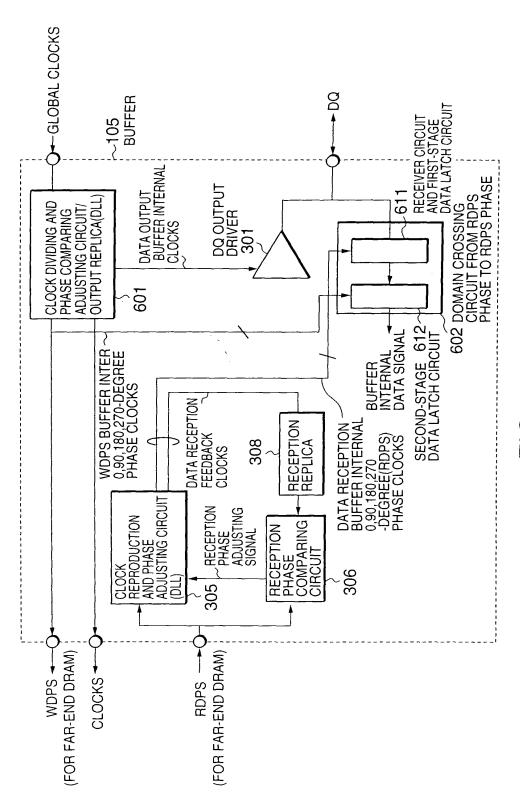


FIG.42

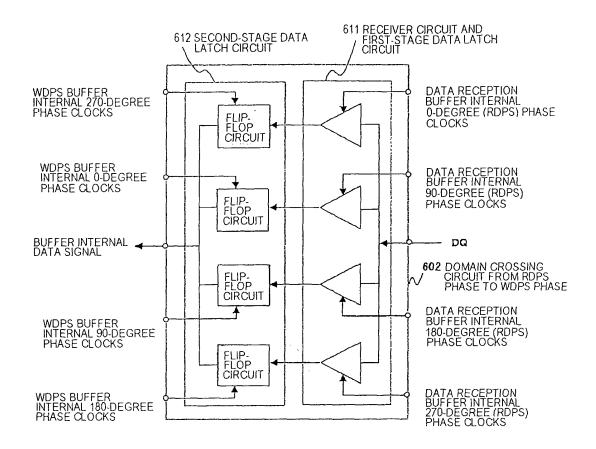


FIG. 45

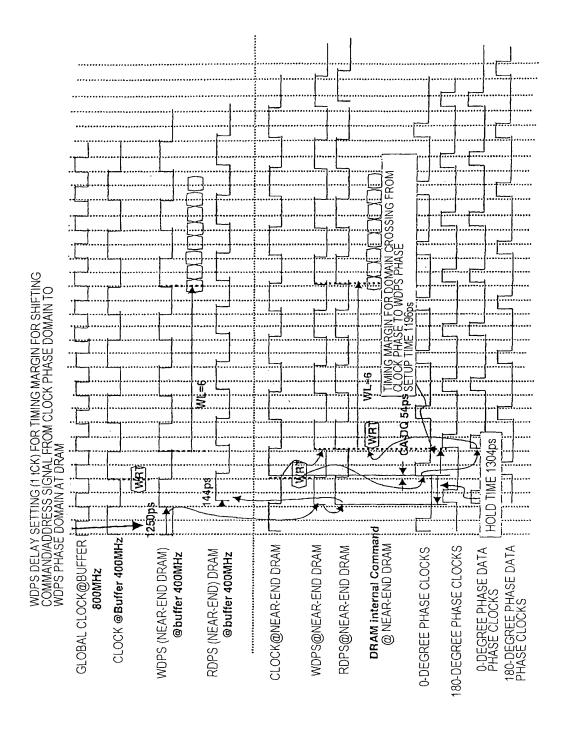


FIG. 46

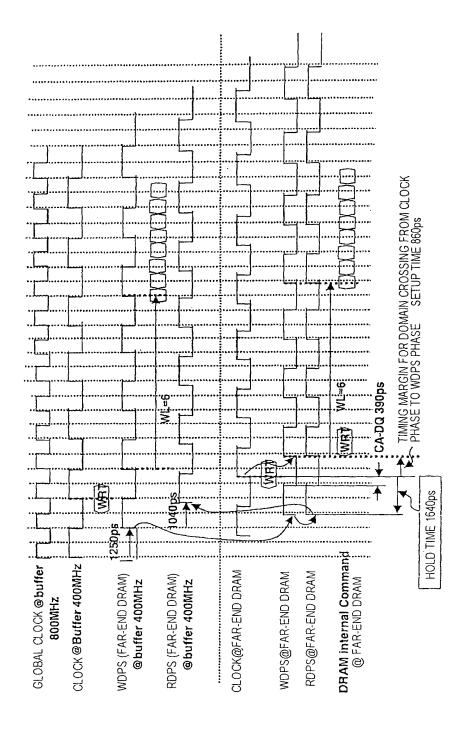


FIG. 47

RDPS PHASE TO WDPS PHASE AT BUFFER 835ps TIMING MARGIN FOR DOMAIN CROSSING FROM RDPS PHASE TO WDPS PHASE AT BUFFER 835, WDPS DELAY SETTING (11CK) FOR TIMING MARGIN FOR SHIFTING COMMAND/ADDRESS SIGNAL FROM CLOCK PHASE DOMAIN TO WDPS PHASE DOMAIN AT DRAM 520ps TIME FOR DATA SIGNAL TO GO AND RETURN BETWEEN BUFFER-DRAM 1040ps 8 CA-DQ 390ps RED (250ps DRAM internal Command @FAR-END DRAM CLOCK @Buffer 400MHz WDPS@FAR-END DRAM GLOBAL CLOCK @buffer RDPS@FAR-END DRAM CLOCK@FAR-END DRAM WDPS (FAR-END DRAM) @buffer 400MHz RDPS (FAR-END DRAM) @buffer 400MHz 800MHz

FIG. 48

-1G, 49

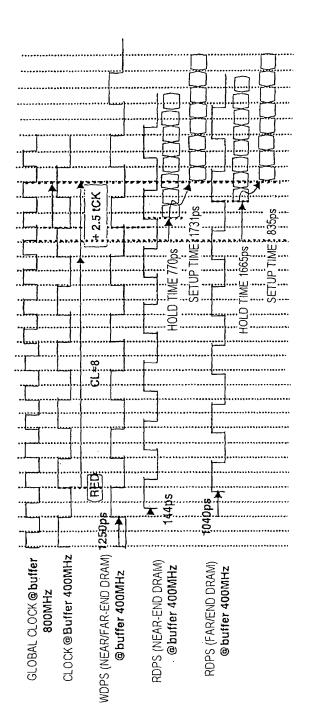


FIG. 50

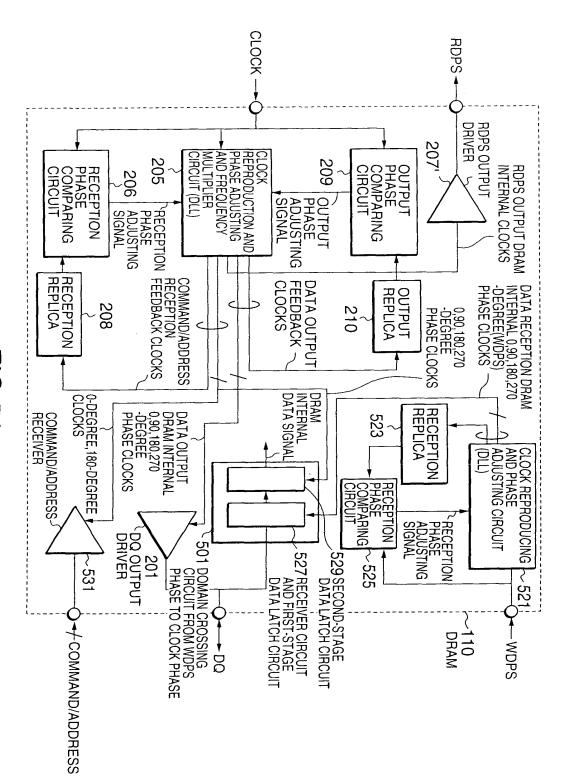
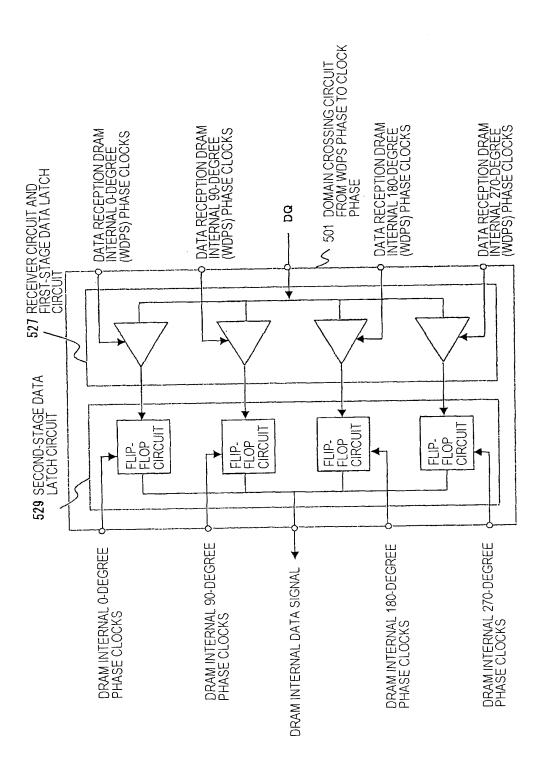


FIG.51



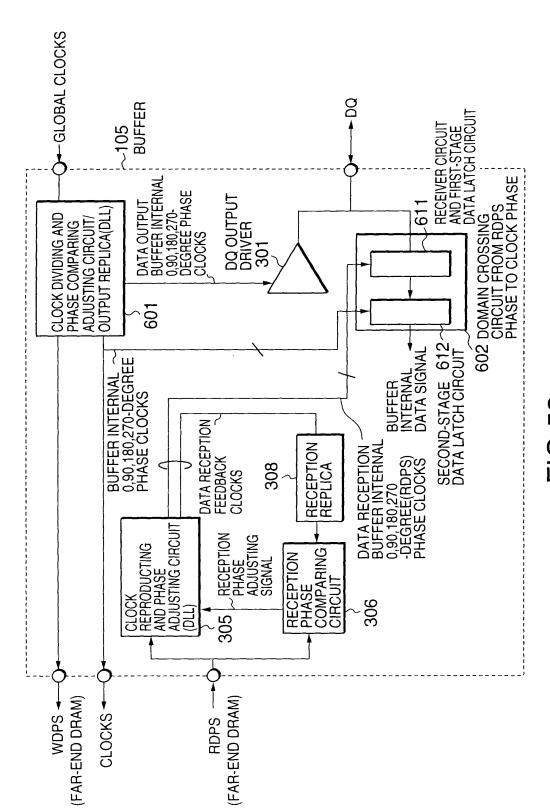


FIG.53

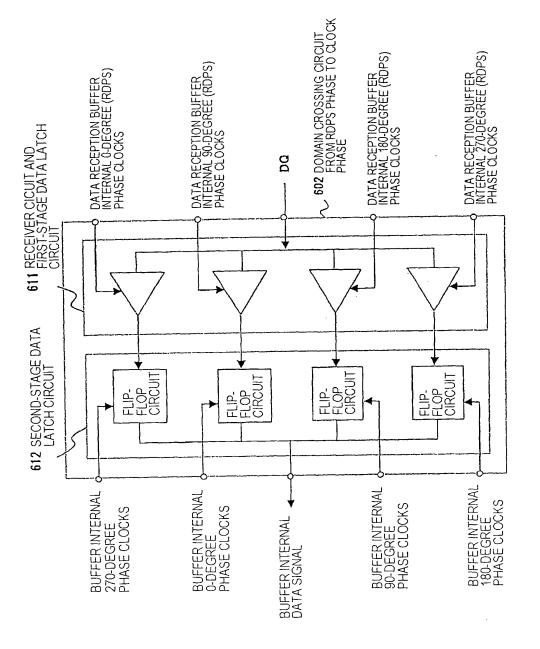


FIG. 54

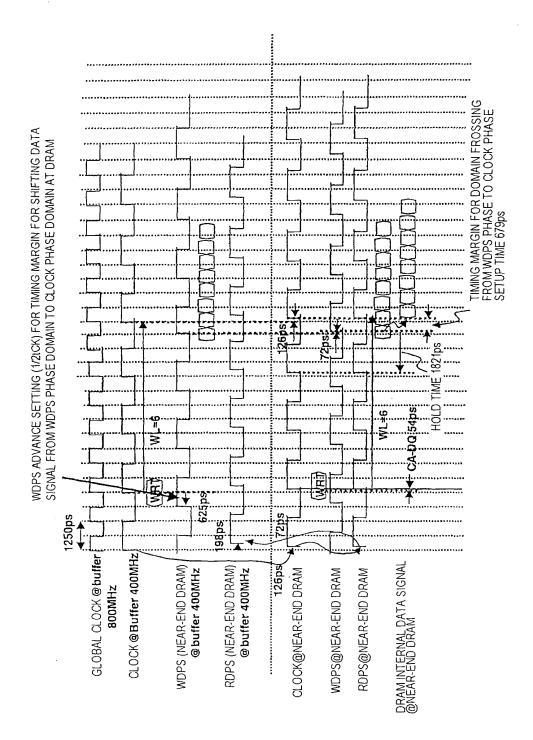


FIG. 55

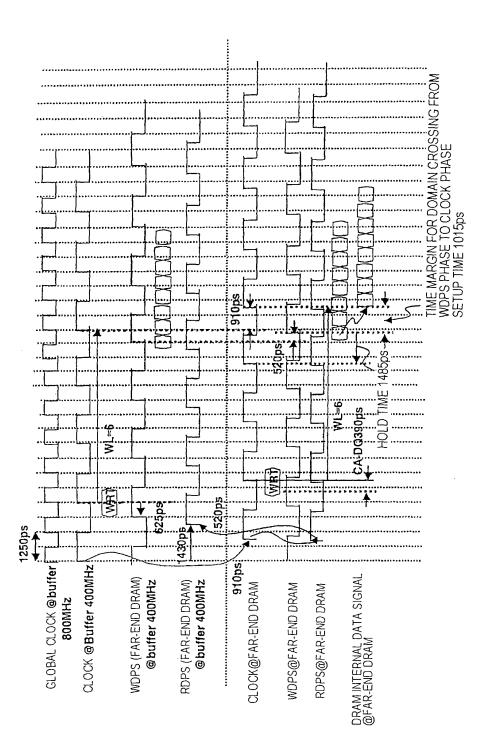


FIG. 56

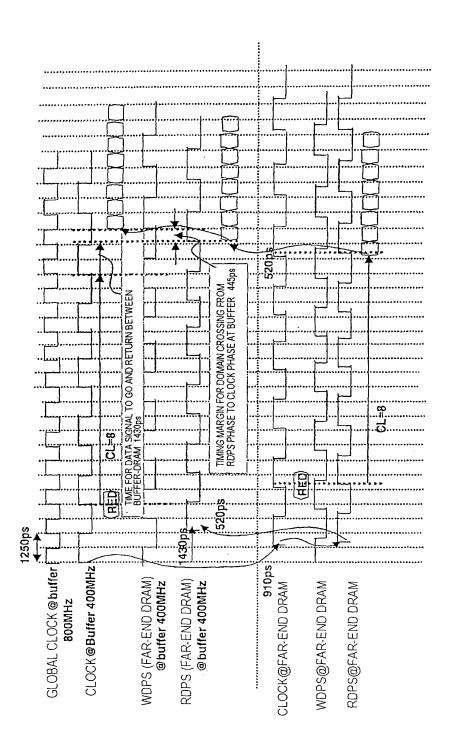


FIG. 57

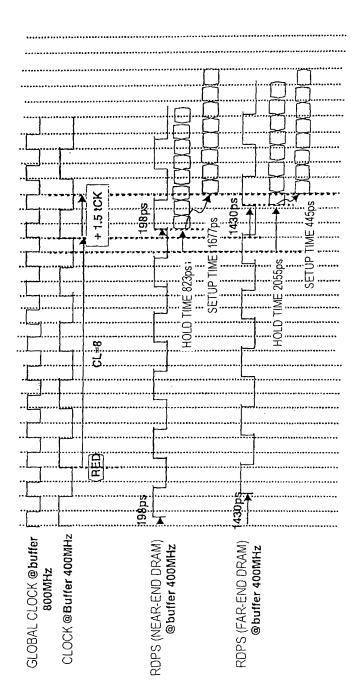
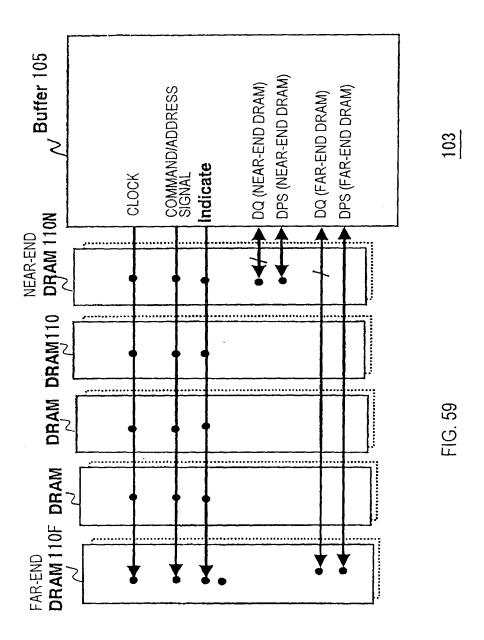
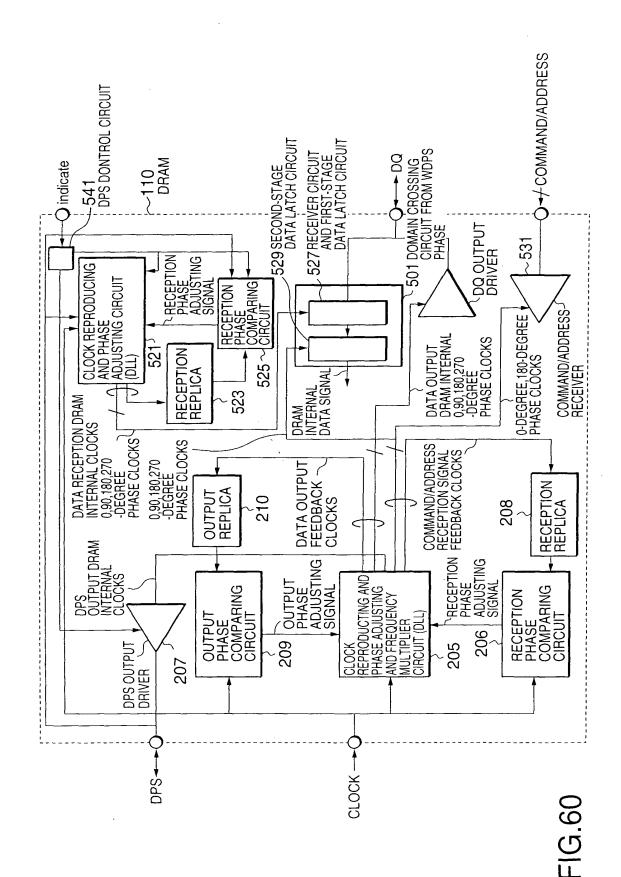


FIG. 58





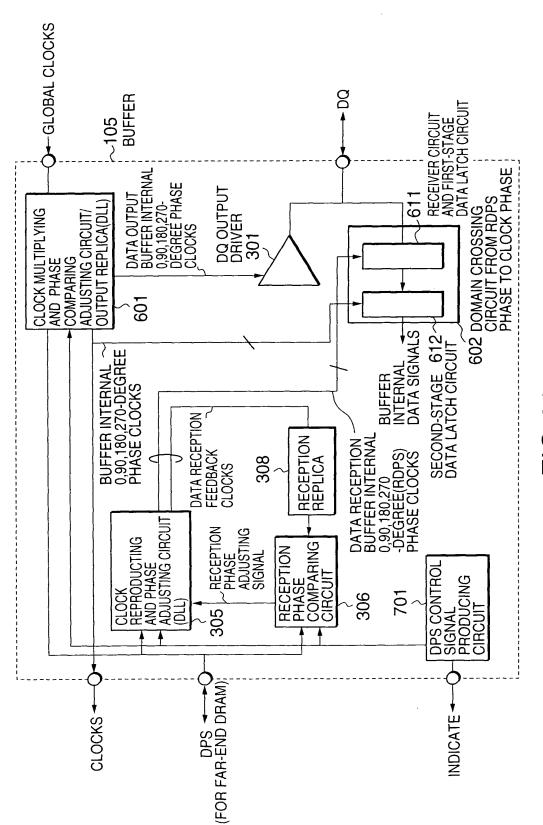


FIG.61

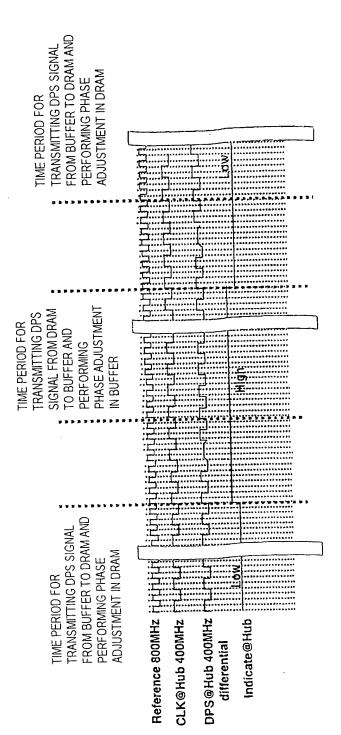


FIG. 62

FIG. 63

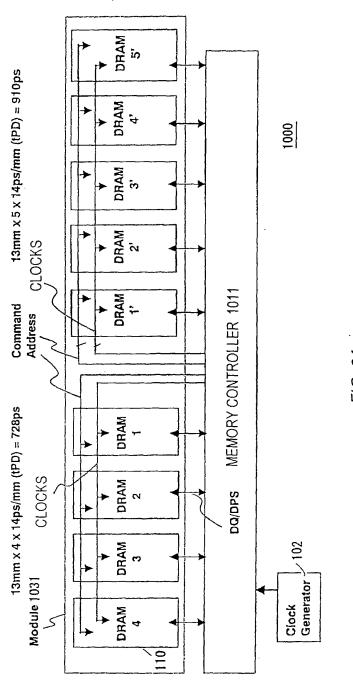


FIG. 64

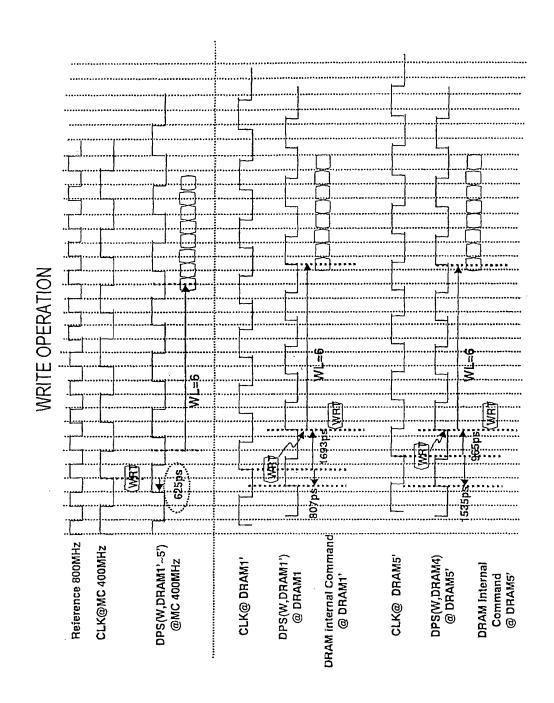


FIG. 66

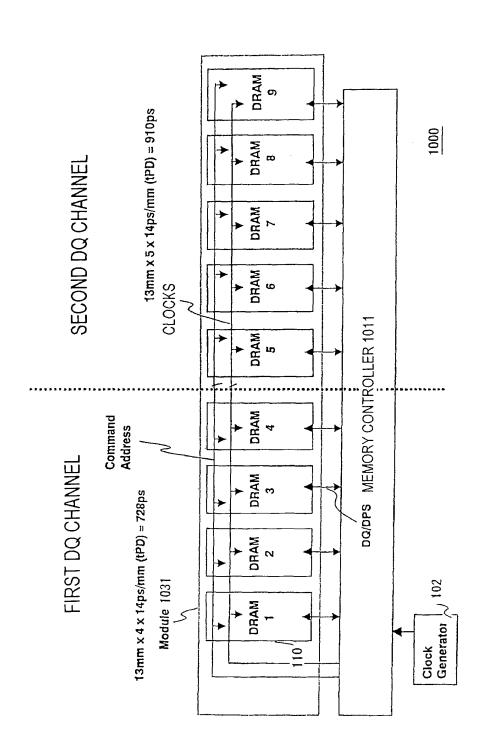
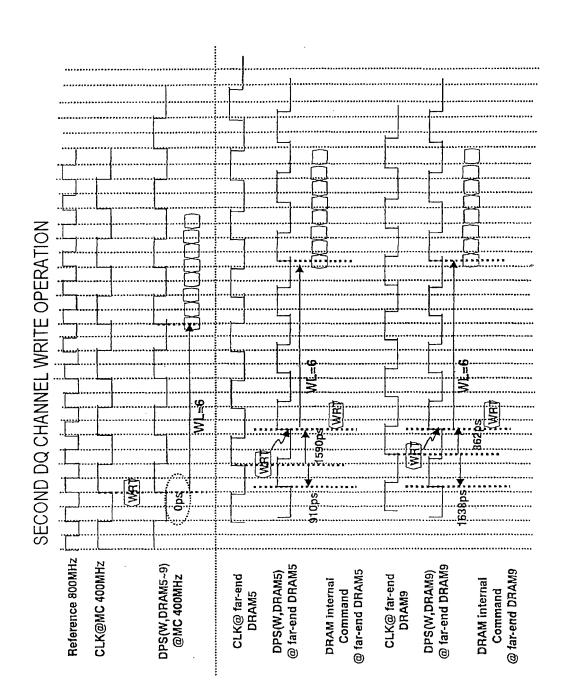


FIG. 67

FIG. 68

FIG. 69



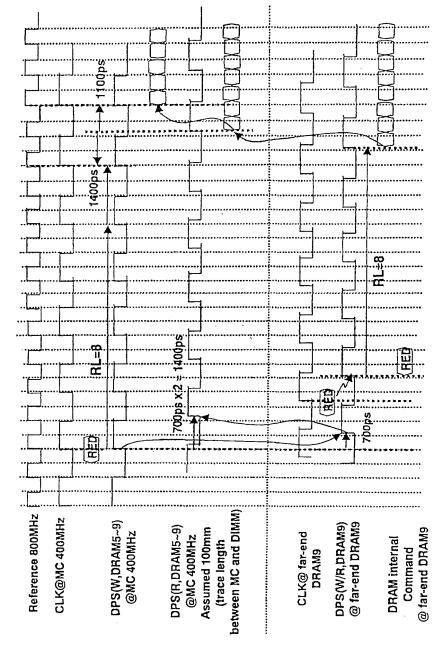


FIG. 71